

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A guide apparatus for guiding an advancing continuous fiber bundle used when winding the fiber bundle on a bobbin, which comprises:

a first guide and a second guide, each of said guides being disposed in a passage through which the fiber bundle is advanced, wherein axis lines of the first and second guides are twisted away from each other in a space, and

a parallel guide, which is disposed at a downstream side of the first and second guides on the passage, through which the fiber bundle is guided to the bobbin and which has an axis line parallel to that of the bobbin,

a first fixed guide roll, which is disposed at an upstream side of the first guide on the passage, and which supplies the fiber bundle as a state that a direction of a width of the fiber bundle is parallel to a bobbin axis,

the first guide comprising a substantially flat guide, which guides the fiber bundle in a twisted state, and which has the axis line thereof arranged so as to cross substantially at a right angle to that of the bobbin,

between the first fixed guide roll and the first guide, the direction of the width of the fiber bundle is twisted from a state that the direction of the width of the fiber bundle is parallel to the bobbin axis to a state on the first guide that the direction of the width of the fiber bundle is at a right angle to the bobbin axis,

the second guide comprising a conical guide on which the fiber bundle is advanced in a twisted state, on said parallel guide, the fiber bundle being twisted back to the same direction as the direction of the fiber bundle when being supplied from the first fixed guide
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roll, or being twisted further in the same direction to thereby turn the fiber bundle upside down, wherein

the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle are stabilized by means of said parallel guide.

Claim 2 (Canceled).

Claim 3 (Previously Presented): The guide apparatus according to claim 1 wherein the second guide is disposed so that the axis line thereof has an inclination angle of less than 90° toward the axis line of the bobbin.

Claim 4 (Canceled).

Claim 5 (Previously Presented): The guide apparatus according to claim 1 which comprises a common supporting means and a traverse mechanism wherein the pair of first and second guides and the parallel guide are supported by means of said common supporting means so as to move in linkage, and the supporting means is reciprocatively moved in the direction parallel to the axis line of the bobbin by means of said traverse mechanism along nearly the whole length of the bobbin.

Claim 6 (Previously Presented): A winding machine for winding an advancing continuous fiber bundle on a bobbin, which comprises:

a guide portion comprising the guide apparatus defined in claim 1, and a winding portion,

wherein an axis line of the first fixed guide roll in the guide portion is disposed so as to be parallel to the axis line of the bobbin.

Claim 7 (Previously Presented): The winding machine according to claim 6 wherein the first fixed guide roll is disposed & for a unit of bobbin, and the first fixed guide roll has a curved circumferential surface whose diameter is progressively reduced toward a center portion thereof.

Claim 8 (Previously Presented): The winding machine according to claim 7 which comprises a second fixed guide roll further disposed in parallel to the first fixed guide roll between the first fixed guide roll on the passage for advancing the continuous fiber bundle and the first guide, and wherein the second guide is disposed in the guide apparatus, the second fixed guide roll comprising a flat roll.

Claim 9 (Previously Presented): The winding machine according to claim 6 which comprises a third fixed guide roll further disposed between the first fixed guide roll and the first guide, and a dancer roll disposed between the first fixed guide roll and the third fixed guide roll, wherein the first and the third guide rolls comprise flat rolls or have curved circumferential surfaces whose diameters are progressively reduced toward center portions thereof.

Claim 10 (Previously Presented): The winding machine according to claim 9 which comprises means for controlling the tension of the continuous fiber bundle based on the displacement of the dancer roll for controlling rotational driving of the bobbin, and wherein each of the first and the third fixed guide rolls comprise flat rolls or have curved

circumferential surfaces whose diameters are progressively reduced toward the center portions thereof.

Claim 11 (Previously Presented): The winding machine according to claim 9 which comprises means for controlling the tension of the continuous fiber bundle based on the displacement of the dancer roll for controlling rotational driving of the bobbin, and the first and the third fixed guide rolls comprise a flat roll and a combination with a roll having a curved circumferential surface whose diameter is progressively reduced toward a center portion thereof.

Claim 12 (Previously Presented): A winding machine for winding a plurality of advancing continuous fiber bundles respectively on a plurality of bobbins, which comprises:
a guide portion comprising a plurality of the guide apparatuses defined in claim 1, and
a winding portion comprising plurality of bobbins,

wherein in the guide portion, the first fixed guide roll comprises a single flat roll, and the first guide, the second guide and the parallel guide respectively comprise a plurality of rolls, and

the plurality of continuous fiber bundles are guided to the first fixed guide roll so as to be guided simultaneously to each of the plurality of the first guide, the second guide and the parallel guide.

Claim 13 (Previously Presented): A method for making a bobbin of a continuous fiber bundle, wherein a plurality of continuous fiber bundles advancing on a passage are guided by guides and wound on the bobbin, which comprises:

guiding the fiber bundle sequentially by a first guide and a second guide being disposed in a passage through which the fiber bundle is advanced, wherein axis lines of the first and second guides are twisted away from each other in a space,

guiding the fiber bundle by a parallel guide, which is disposed at a downstream side of the first and second guides on the passage and which has an axis line parallel to that of the bobbin,

guiding the fiber bundle by a first fixed guide roll, which is disposed at an upstream side of the first guide on the passage, and supplying the fiber bundle to the first and second guides,

supplying the fiber bundle to the first and second guides in a condition that an axis line of a first fixed guide roll is parallel to an axis line of a bobbin axis,

guiding the fiber bundle in a twisted state by the first guide, the first guide comprising a substantially flat guide, which has an axis line thereof arranged so as to cross substantially at a right angle to the axis line of the bobbin,

between the fixed guide roll and the first guide, twisting the direction of the width of the fiber bundle, from a state that the direction of the width of the fiber bundle is parallel to the bobbin axis to a state on the first guide that the direction of the width of the fiber bundle is at a right angle to the bobbin axis,

the second guide comprising a conical guide, twisting back to the fiber bundle being advanced in a twisted state on said parallel guide to the same direction as the direction of the fiber bundle when being supplied from the first fixed guide roll, or twisting further in the same direction so as to turn the fiber bundle upside down, and

stabilizing the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle, by means of a parallel guide.

Claim 14 (Previously Presented): The method for making a bobbin of a continuous fiber bundle according to claim 13 which comprises forming the continuous fiber bundle so as to have 12,000 to 150,000 filaments of carbon fiber.

Claim 15 (Original): A carbon fiber bobbin obtained by the method defined in claim 13.

Claim 16 (Previously Presented): A guide apparatus for guiding an advancing continuous fiber bundle used when winding the fiber bundle on a bobbin, which comprises:
a first guide and a second guide, each of said guides being disposed on a passage on which the fiber bundle is advanced, wherein the axis lines of the guides are twisted away from each other in a space,

a parallel guide, which is disposed at a downstream side of the pair of the guides on the passage, through which the fiber bundle is guided to the bobbin, and which has the axis line parallel to that of the bobbin,

the first guide comprising a conical guide on which the fiber bundle is advanced in a twisted state, and which is disposed such that an oblique line with which the fiber bundle contacts first crosses at right angle to the axis line of the bobbin, and

the second guide comprising a conical guide on which the fiber bundle is advanced in a twisted state, on the parallel guide, the fiber bundle being twisted back to the same direction as the direction of the fiber bundle when it is being supplied, or being twisted further in the same direction thereby turning the fiber bundle upside down,

wherein the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle is stabilized by means of the parallel guide.